

## REVIEW OF THE ORIENTAL WOLF SPIDER GENUS *PASSIENA* (LYCOSIDAE, PARDOSINAE)

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**ABSTRACT.** The pardosine genus *Passiena* Thorell 1890 is redefined and relimited. *Passiena* has excellent diagnostic characters, in particular the male pedipalp that carries a unique group of soft spicules on the distal part of the palpa. The female of the type species, *Passiena spinicrus* Thorell 1890 from Malaysia, is illustrated for the first time. A new species, *P. torbjoerni*, is described from Thailand. All specimens of *Passiena* were collected from the ground layer of or nearby dense jungle or bush, an exceptional habitat for Oriental Pardosinae. Males of *P. torbjoerni* carry modified setae on the ventral side of the abdomen, similar to *Hygrolycosa rubrofasciata* (Ohlert 1865) and *Pardosa sphagnicola* (Dahl 1908), where they play an important role in the courtship behavior of males. Five African species currently listed in *Passiena* do not conform to the generic diagnosis as provided here. Three of these show clear affinities with *Pardosa* C.L. Koch 1847 and are consequently transferred from *Passiena*: *Pardosa praepes* (Simon 1885); *Pardosa elegantula* (Roewer 1959) new combination; and *Pardosa upembensis* (Roewer 1959) new combination. *Passiena auberti* (Simon 1898) and *Passiena albipalpis* Roewer 1959 are considered *incertae sedis* pending a generic revision of African Lycosidae as they cannot be placed with certainty into any other lycosid genus.

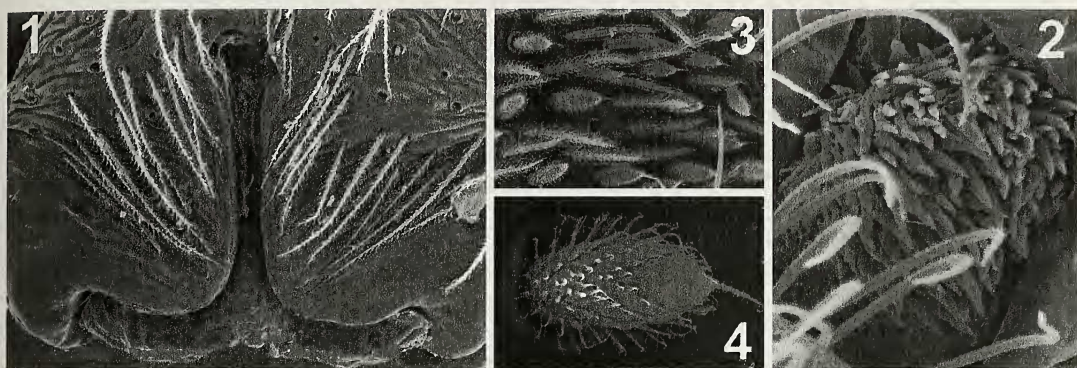
**Keywords:** Taxonomy, systematics, Pardosinae, ventral abdominal setae, acoustic communication

Since its original description, the systematic position of the wolf spider genus *Passiena* Thorell 1890 has remained problematic. The knowledge of characters of the male pedipalp is crucial for an interpretation of lycosid relationships (e.g. Dondale 1986; Zyuzin 1993) but only the female of the type species was known. In his revisionary work on worldwide lycosids, Roewer (1955, 1959, 1960) neglected the importance of characters of the copulatory organs at generic level, and a strong emphasis on minor details in variable somatic characters (especially eye pattern, cheliceral dentition and spination of legs) led to numerous, ill-founded taxonomic changes to the lycosid classification. For example, purely the presence of more than three pairs of ventral spines on the tibiae led him to the suggestion that *Passiena* from Oriental region should be synonymized with the subarctic-alpine Palearctic genus *Acantholycosa* Dahl 1908 (Roewer 1959).

Simon (1898) listed *Passiena* as synonym of *Pardosa* C.L. Koch 1847, noting the similarity of the type species, *P. spinicrus* Thorell 1890, with *Pardosa bifasciata* (C.L. Koch 1834) and *Pardosa auberti* Simon 1898. Subsequently, Roewer (1955) wrongly attributed

to Simon (1898) the inclusion of the latter two species in *Passiena* (see also Tongiorgi 1966) and added *Pardosa schenkeli* Lessert 1904, a close relative of *P. bifasciata*, to *Passiena*. Bonnet (1958) synonymized *Passiena* with *Pardosa*, probably without personal study of the type species. Roewer (1959) did not accept this synonymy, listed *P. auberti* and *Pardosa praepes* Simon 1885 in *Passiena* and described three new species from Africa, *P. albipalpis* Roewer 1959, *P. elegantula* Roewer 1959 and *P. upembensis* Roewer 1959. Tongiorgi (1966) was the first to note that the genital organs of the group around *P. bifasciata* were different from the African species of *Passiena sensu* Roewer (1959) when he included *P. bifasciata* and *P. schenkeli* in his revision of Italian *Pardosa*. Tanaka (1993) listed *Passiena* as a junior synonym of *Pardosa* without justification. This was not accepted by Platnick (2005) who, prior to this study, included six species in *Passiena*: *P. spinicrus*, *P. auberti*, *P. praepes* and the three species described by Roewer (1959).

The aim of this study is to provide a modern diagnosis for *Passiena* based on genital and somatic characters of the Oriental type species of which SEM photographs of diag-



Figures 1–4.—Diagnostic features of *Passiena*, SEM photographs. 1–4. *Passiena torbjoerni* paratypes, Nam Nao National Park, Phetchabun Province, Thailand: 1. Epigynum, female; 2. Tip of male palea with soft pointed spicules; 3–4. Modified setae on venter of male (cf. *Hygrolycosa rubrofasciata* in Kronstedt 1996: figs. 17, 18).

nostic characters are presented. Three of the African species incorrectly placed in *Passiena* are transferred to *Pardosa*, whereas the remaining two are considered *incertae sedis* pending revisional studies of the main African groups of the Pardosinae.

#### METHODS

All specimens of *Passiena* were examined with an OLYMPUS SZH stereomicroscope. Scanning Electron Micrographs photographs of male and female genitalia and the specialized ventral abdominal setae of the male of *P. torbjoerni* were taken with a JEOL JSM-5200 and digitized using the software package SemAfore (JEOL Ltd., Tokyo). The digital photographs were taken with an Olympus digital camera and enhanced using the “Helicon Focus” software. A critical evaluation of the African species *Passiena praepes* (Simon 1885) and *P. upembensis* Roewer 1959 was possible by comparing the descriptions with material of related African species of Pardosinae and Wadicosaenae available for comparison.

Paratypes will be deposited in Stockholm (NHRS), Washington (NMNH) and Paris (MNHN).

**Terminology.**—The terminology of the structures of the copulatory organs is problematic in spiders as presumed homology and similar function and topography of structures have led to deviating nomenclatures. Zyuzin (1993) used functional (embolus, conductor) but also topographical terms (terminal apophysis, tegular apophysis) for the male pedipalp structures. Vogel’s (2004) terminology was

based on previous concepts of Dondale & Redner (1990) and seemed to be a mixture of topography, function and homology, with the exception of embolus, palea and median apophysis, all of which are strictly based on homology. Their median apophysis should not be confused with various similarly named pedipalp structures in other families of different main lineages of spiders. To avoid any confusion, the term tegular apophysis is used here instead of median apophysis. The term terminal apophysis is here used for all separate sclerites, which topographically correspond to the terminal apophysis of the Pardosinae *sensu* Dondale & Redner (1990). Additional sclerites between the tegulum and palea are not named here, as Zyuzin’s (1993) term synembolus and several “lamellae” were especially created for Lycosinae, and their application to Pardosinae might be misleading.

**Abbreviations.**—*Collections:* MZT, Zoological Museum, University of Turku, Turku, Finland; NHRS, Naturhistoriska Riksmuseet, Stockholm, Sweden; PTL, personal collection of the author. *Morphology:* AME, ALE, anterior median and lateral eyes; PME, PLE, posterior median and lateral eyes.

#### SYSTEMATICS

##### Subfamily Pardosinae Simon 1898

##### *Passiena* Thorell 1890

*Passiena* Thorell 1890: 140. Thorell 1892: 186; Simon 1898: 355; Roewer 1955: 198; Roewer 1959: 182; Bonnet 1958: 3439 (as synonym of *Pardosa*). *Pardosa* C.L. Koch 1847. Bonnet 1958: 3423; Tanaka 1993: 262.

**Types species.**—*Passiena spinicrus* Thorell 1890 by original designation and monotypy.

**Diagnosis.**—*Passiena* is mainly characterized by a combination of genitalic and somatic characters of males. It can be distinguished from all other lycosid genera by the presence of a group of soft spicules on the distal part of the palea of the male pedipalp (Figs. 2, 18). The ventral side of the abdomen in males (Figs. 3, 4) carries unique modified setae that differ considerably from similar structures in *Pardosa sphagnicola* (Dahl 1908) and *Hygrolycosa rubrofasciata* (Ohlert 1865), although their function could be similar. The base of female epigynum has variable sclerotizations of the lateral plates, although the basic pattern is typically that of Pardosinae.

**Description.**—Small to medium spiders. Color pattern of both carapace and abdomen with a wide, light longitudinal median band (Figs. 5, 7, 11, 13); fovea on carapace very distinct and dark in color. Anterior eye row slightly procurved, AME and ALE subequal in size (Figs. 9, 14); PME row narrower than that of PLE (as in most Pardosinae) (Figs. 5, 13). Femora with oblique or irregular annulations in females (Figs. 6, 8, 15), males with different color pattern on femora I (Fig. 12), distal segments of legs uniform in color, sometimes a marmorous pattern on tibiae I. Tibiae of leg I and II with 4–6 pairs of ventral spines, and metatarsi of legs I–II with usually 4 exceptionally long pairs of ventral spines. Dorsal and lateral spines conspicuous in all legs, relatively shorter in males than females. Abdomen of males ventrally with short modified setae which carry secondary hair-like structures (Figs. 3, 4). Leg spination of male weaker than that in female. Subtegulum small, distally and laterally surrounded by tegular base (Fig. 17); tegular apophysis very short and distinctly separated from tegulum by a deep furrow on all sides; terminal apophysis bipartite, embolus distally curved and partly flattened.

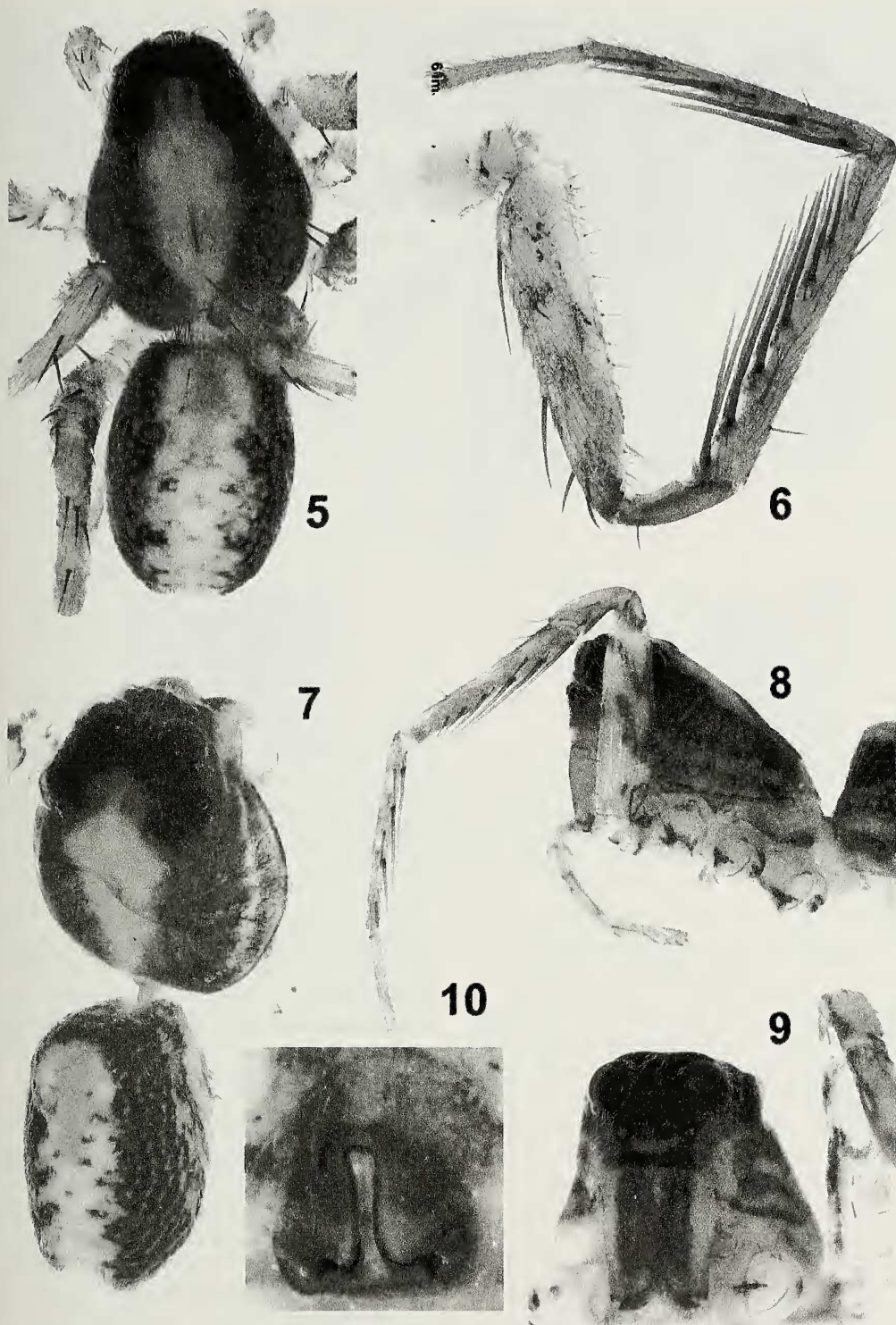
**Ecology.**—The habitat for all samples of *Passiena* spp. collected by myself is very dark jungle, representing a very unusual habitat for tropical Pardosinae and even for most Lycosidae except Venoniinae (pers. obs.).

**Remarks.**—*Passiena* is retained in the Pardosinae because the male pedipalp morphology agrees at least partly with the synapo-

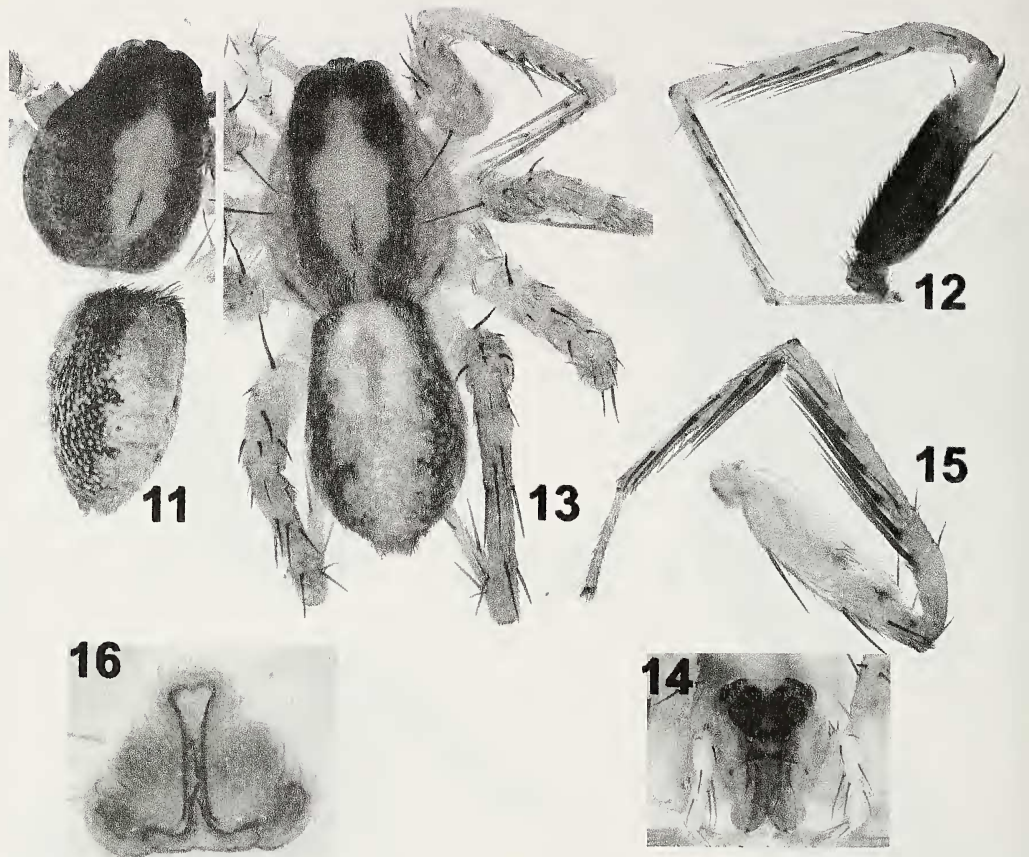
morphies listed by Dondale (1986) ('conductor shaftlike, lying transversely along the basal margin of the palea').

Two other wolf spider species have modified setae on the ventral side of the male abdomen, *H. rubrofasciata* and *P. sphagnicola*. In *H. rubrofasciata*, these setae play an important role during the courtship of males, which is characterized by continuously drumming the abdomen on the ground (e.g. Kronstedt 1984, 1996; Kotiaho et al. 1996; Kotiaho 1997). Similar drumming behavior has been reported in *P. sphagnicola* (Kronstedt 1996), but not studied in as much detail. Acoustic communication with other abdominal structures and legs plays an important role in the reproductive biology of spiders (Uetz & Stratton 1982). Unfortunately, no observations on the courtship behavior are available for *Passiena* spp. Although the function of the modified ventral setae appears to be similar for all above species, the ultrastructure of these modified setae is very different (for *H. rubrofasciata* see Kronstedt 1996: figs 14–18).

The possibility of synapomorphy is excluded for the ventrally spiny male abdomen, and the ultrastructure of these modified setae among normal setae is not even similar (cf. Figs. 3, 4 with Kronstedt 1996: figs 14–18). *Passiena torbjoerni* and *Pardosa sphagnicola* both belong to Pardosinae, but the males of the closest relatives of the latter (*P. pullata* group) have fewer significant modifications in their ventral setae, consisting of uneven length, insignificant thickening and differences in coloration (Holm & Kronstedt 1970; pers. obs.). *Hygrolycosa rubrofasciata* is not regarded as a member of Pardosinae (Dondale 1986; Zyuzin 1993), although the phylogenetic relationships of this genus have not been clarified. The corresponding structures and behavior of the East Asian *Hygrolycosa umidicola* Tanaka 1978 are not known to me while all other species now assigned to *Hygrolycosa* are known either as female or juveniles only and their generic placement is dubious (cf. Kronstedt 1996). The ultrastructural modification of the dorsal abdominal setae of female lycosids for attachment of the newly hatched spiderlings was documented by Rovner et al. (1973: figs. 3 a–c). All these results seem to prove that the abdominal setae of Lycosidae are easily modified for variable adaptations.



Figures 5–10.—Digital photographs of female *Passiena spinicrus* from Malaysia, Pinang; 5. dorsal view of carapace and abdomen; 6. Leg I; 6–10. Female of *P.* sp. from Sabah, Tawau; 6. Dorsal view of carapace and abdomen; 7. Dorso-lateral view of carapace and abdomen; 8. Lateral view of carapace and leg I; 9. Frontal view of carapace and chelicerae; 10. epigynum, ventral view.



Figures 11–16.—*Passiena torbjoerni* new species from Nam Nao National Park., Thailand, digital photographs; 11. male dorsally; 12. leg I of male; 13. female dorsally; 14. frontal view and chelicerae of female; 15. leg I of female; 16. epigynum.

*Passiena spinicrus* Thorell 1890

Figs. 5–10

*Passiena spinicrus* Thorell 1890: 140. Thorell 1892: 186; Simon 1898: 355; Roewer 1955: 199; Roewer 1959: 162.

*Pardosa spinicrus* (Thorell). Bonnet 1958: 3423, 3439; Tanaka 1993: 262.

**Type material examined.**—Holotype female from Pulau Pinang, Malaysia [5°25'N, 100°20'E], O. Beccari and E. D'Albertis (NHRS) [erroneously reported lost by Roewer (1959)].

**Other material examined.**—MALAYSIA: 1 ♀ with cocoon, 1 juvenile, Pulau Pinang, Batu Ferringgi, 5°28'N, 100°15'E, 29 November 1976, P.T. Lehtinen, fern thicket (MZT). A female specimen from Malaysia, Sabah, Tawau district, Bal Estate, 3°46'N, 100°59'E, 3 November 1979, rubber plantation, P.T. Leh-

tinen (MZT AA7373) with an exactly similar color pattern of the carapace, but slightly deviating spination of legs may belong to this species, although the large, well-collected gap between these localities may suggest a new taxon for the specimen from Sabah.

**Diagnosis.**—It is not possible to diagnose males of the two *Passiena* species as males of *P. spinicrus* are not known. Female *Passiena spinicrus* are distinctly smaller than *P. torbjoerni* and the central epigynal septum is more distinct in its posterior part, while the basal integument under the lateral epigynal plates is partly sclerotized, contrasting to the completely soft integument in *P. torbjoerni*.

**Description.**—Female (Pulau Pinang, Malaysia): Medium to small-sized pardosine species. Color pattern of both carapace and abdomen with wide light longitudinal band (Fig. 5) and narrow light submarginal bands,

fovea on carapace very distinct and also recognizable for its dark color; a pair of dark elongate spots within the narrower anterior part of the central band similar to the color pattern of this area in the specimen from Tawau (Figs. 5, 7); leg femora with irregular annulations (Fig. 6), the corresponding annuli in the Tawau specimen very distinct (Fig. 8); all more distal segments of legs of uniform color or sometimes with an obscure marmorous pattern of the front tibiae. Anterior eye row weakly procurved, AME and ALE subequal in size. Posterior eye row an anteriorly strongly narrowed trapezium (as in most *Pardosinae*). Front tibiae (I–II) with 6, metatarsi I–II with 4 exceptionally long pairs of ventral spines. Dorsal and lateral spines conspicuous in all legs.

Female (Tawau, Sabah): Body total length 3.4 mm. Carapace 1.9 mm long, 1.0 mm wide. Leg I: femur 1.4, patella 0.60; tibia 1.25; metatarsus 1.25; tarsus 0.7 mm. Anterior eye row distinctly procurved, AME larger than ALE. Posterior eyes form an anteriorly strongly narrowed trapezium; PLE larger than PME. Labium much wider than long. Carapace brown, long median light stripe with a short triangle extending between the posterior eyes and a long light, gradually tapering triangle extending close to the posterior margin. Narrow light submarginal stripes are present. Chelicerae mesally brown, laterally light, sternum and coxae dirty white, gnathocoxae and labium uniform light brown. Remaining femora (I and IV) with three dark very oblique U-shaped annulations, patellae and tibiae brown with lighter marmorous pattern, metatarsi and tarsi (I and IV) uniformly pale yellowish brown.

Lateral faces of abdomen rather dark brown with regularly placed minute pale spots, central light stripe wide with dark segmentally arranged lateral dentations, the anterior folium yellowish brown, slightly sclerotized. Ventral face of abdomen with wide central light band, its margins with numerous dark dentations. Two pairs of very distinct circular muscular apodemes behind the epigastric fold. Epigynal area distinctly darker than its surroundings.

Spination of leg I: 5 ventral pairs of very long spines on tibia and 3 ventral pairs of very long spines on metatarsi, (both legs II and III missing) 2 shorter retrolateral spines are present both on tibiae and on metatarsi I. Nu-

merous short erect setae on ventral side of femur I among 4 stronger and longer setae.

Epigynum: shape of epigynal plates as in Fig. 10 (Tawau specimen: the epigynal mount of the MZT specimen from Pinang, compared with the topotypical holotype has not been found during this study). Epigynal septum anteriorly rounded in ventral view, weakly sclerotized pair of inner arches (corresponding to margins of anterior pockets of most lycosid species). Vulva with two pairs of rounded receptacula, connected to each other with a short constriction only. Epigynal median furrow anteriorly rounded and slightly widened; posterior transverse bar well developed. Lateral epigynal plates with a distinct notch bordering the posterior bar.

Male: unknown.

Egg-cocoon (Pulau Pinang, Malaysia): light brown and with a distinct surface fold or seam as in all *Pardosa* s. lat.

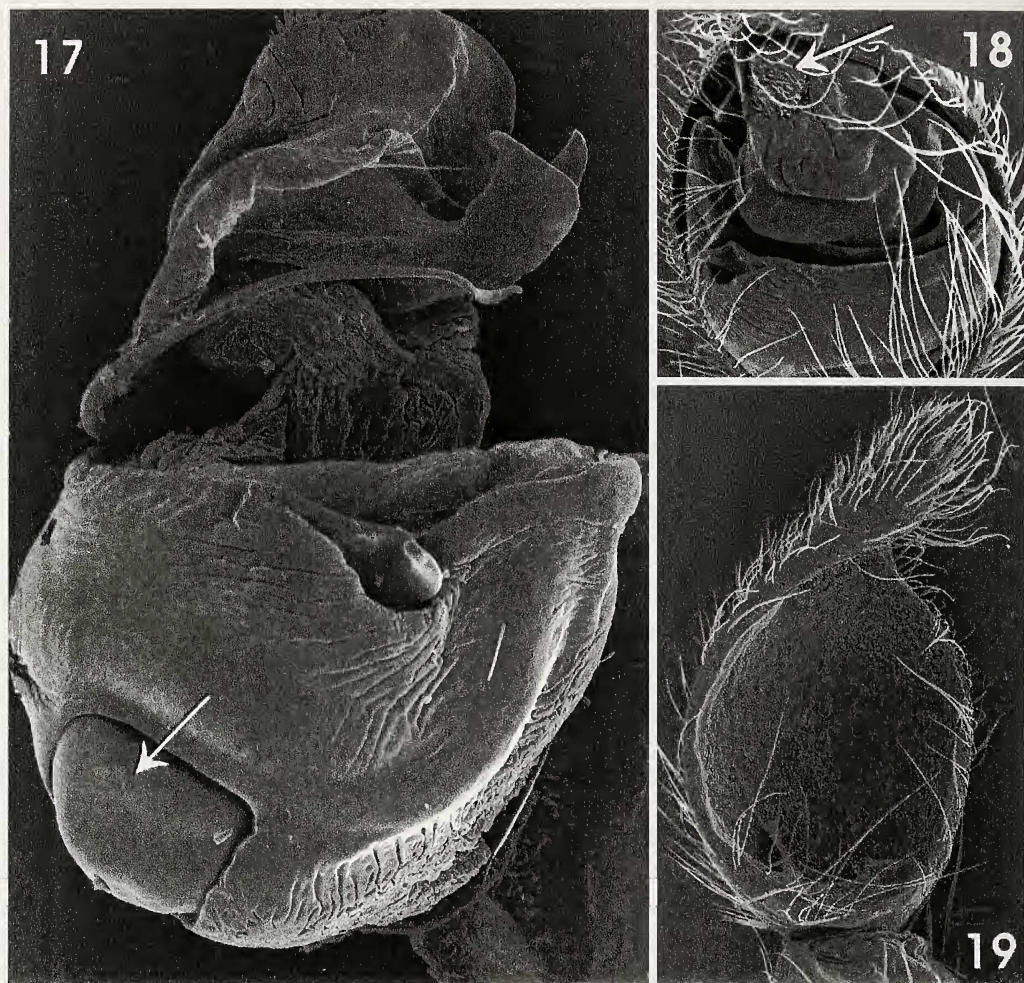
**Distribution.**—*Passiena spinicrus* is found on Pinang Island, Malaysia, and possibly in northeastern Borneo. The present study confirms the presence of a population at the type locality Pulau Pinang still in 1976. I have also seen juvenile specimens from the Malayan Peninsula that may be referable to this species. The identification of juvenile specimens of *Passiena* at the generic level is possible in the field due to the unusual color pattern and leg spination, and the unusual habitat preference. In contrast to most other tropical wolf spider species, *P. spinicrus* occurs in exceptionally dark habitats, in the ground layer of dense jungle or bush.

Roewer (1955) and subsequently Platnick (2005) listed a much wider range ('India to Hong Kong, Sumatra, Sulawesi') which seems to be erroneous since the original description of the holotype female from Malaysia, Pulau Pinang, appears to be the only previous published record. In addition, I have not found *P. spinicrus* during extensive fieldwork in Sumatra, India and neighboring countries, or in Sulawesi and Hong Kong, although I have specifically searched for rainforest dwelling pardosines for many years.

*Passiena torbjoerni* new species

Figs. 1–4, 11–19

**Material examined.**—Holotype male, Nam Nao National Park, Phetchabun Province, Thailand, 16°43'N, 101°33'E, 19 November



Figures 17–19.—*Passiena torbjoerni* new species from Nam Nao National Park, Thailand, SEM-micrographs of male palp: 17. bulbus ventrally, arrow = subtegulum; 18. distal view of palp, arrow = spicules on palea; 19. cymbium, bulb removed, ventral view.

1976, P.T. Lehtinen, ground layer of savanna (NHRS). Paratypes: THAILAND: 1 ♂, collected with holotype (NHRS); 3 ♂, 4 ♀, 2 juveniles, Nam Nao National Park, Phetchabun Province, 16°43'N, 101°33'E, 19 November 1976, P.T. Lehtinen, bamboo thicket (1 ♂, 1 ♀ PTL; remainder in NHRS); 1 ♂, 1 juvenile, same locality, 29 October–19 November 1976, pitfall trap, J. Ruohomäki, E. Huitula, P.T. Lehtinen, grassy margin of bamboo forest (NHRS); 1 subadult ♂, same locality, 29 October–19 November 1976, pitfall trap, J. Ruohomäki, E. Huitula, P.T. Lehtinen, grassy forest (PTL); 1 juvenile, Doi Suthep, Kontathon waterfall, Chiangmai Province, 18°49'N, 98°54'E, 14 November 1976, P.T. Lehtinen, in jungle (PTL).

**Etymology.**—This species is dedicated to the Swedish lycosid specialist and my good friend Dr. Torbjörn Kronestedt, one of the few specialists who has seen a real *Passiena*.

**Diagnosis.**—It is not possible to diagnose males of the two *Passiena* species as males of *P. spinicrus* are not known. Females of *Passiena torbjoerni* are distinctly larger than those of *P. spinicrus* and the central epigynal septum is less distinct posteriorly, while the basal integument under the lateral epigynal plates is desclerotized, contrasting to partly sclerotized integument in *P. spinicrus*.

**Description.**—Male (from Nam Nao National Park, Thailand): Total body length 4.2 mm (including lengthened/outdrawn petiolar tube). Carapace 1.65 mm long, 1.58 mm wide.

Abdomen 2.1 mm long. Leg I: femur 1.96; patella 0.56; tibia 1.47; metatarsus 1.61; tarsus 0.81 mm. Carapace with laterally steep cephalic region (Fig. 14); clypeus ca. three times the diameter of AME; dorsally with a centrally widened, very pale-brownish longitudinal median band, while the lateral parts are dark brown without further signs of pattern (Fig. 11) with a wide pale longitudinal band; median band continuing into the cephalic area after a dark constriction caused by the very dark brown surroundings of the posterior eyes, lateral parts uniform dark brown. Some specimens have faint narrow submarginal lighter stripes; posterior eyes on blackish wide tubercles; sternum, labium and gnathocoxae uniform light brown. Fovea conspicuous, dark. Chelicerae with longitudinal dark stripes as in *P. spinicrus*.

Abdomen (Fig. 11) with a reddish brown central longitudinal band, its margins unevenly serrate. Lateral parts brown, throughout with minute lighter spots. Ventral face of abdomen pale brown, its central area throughout covered with short spines (Figs. 3, 4).

Femora and tibiae of all legs with numerous dorsal and lateral spines, some dorsal spines on femora exceptionally long. Tibiae and metatarsi I–II with 3–4 pairs of ventral spines (Fig. 12), but these spines are much shorter than the corresponding spines on females of both known species of *Passiena*. Basal two thirds of femora I dark brown in dark specimens (Fig. 12), with oblique dark stripes on lighter specimens, other segments uniform pale brown.

Male pedipalp (Figs. 17–19) dark brown, with conspicuous field of soft spicules in the distal part of palea (Figs. 2, 18). Cymbium distally screwed (Fig. 19); tegular apophysis short, terminal apophysis bilobate, embolus distally curved and flattened. The group of spiculae in the distal part of palea deviates from all modifications of palea in other *Pardosa* groups, where all paleal modifications are well sclerotized.

Female (paratypes from Nam Nao National Park): Total length 4.2 mm. Carapace 2.21 mm long, 1.65 mm wide. Abdomen 2.2 mm long. Leg I: femur 1.75; patella 0.56; tibia 1.82; metatarsus 1.65; tarsus 0.74 mm. Carapace dorsally with a centrally widened, pale-brownish longitudinal median band bordered by a pair of dark brown longitudinal bands.

The lateral parts have regularly additional pale submarginal bands as pale-colored males (Fig. 13); of PME and PLE; chelicerae pale with very distinct dark central stripes on the anterior face as in *P. spinicrus*. Row of anterior eyes slightly procurved, AME larger than ALE (Fig. 9). Abdomen dorsally with a very wide pale-brown central field, laterally with narrow stripes forming a dark brown reticulation; anterior margin encircled by a row of dark setae; venter and sternum uniform pale brown. Basal half of femora I dark brown; all other femora may have an indistinct dark marbled pattern; all other leg segments more or less uniform pale brown. Spination of legs: All femora with two strong dorsal spines and 2–3 short lateral spines on both sides; tibiae I–II with six long, strong pairs of ventral spines, one long retrolateral spine, and one subdistal dorsal spine; metatarsi I–II with 3 pairs of very long ventral spines in the basal half and few shorter ventral and lateral spines; patellae, tibiae and metatarsi III–IV irregularly covered with comparatively weak and short spines, very different from the very long and strong ventral spines of legs I–II.

Epigynum: narrow, soft median septum between lateral plates continued as a soft basal transverse bar; median septum inverted-T shaped; posterior basal transverse bar with slightly curved lateral arms.

**Remarks.**—*Passiena torbjoerni* is found in Phetchabun and Chiangmai Provinces of Thailand, where it inhabits the floor of rainforests.

## DISCUSSION

**The African *Passiena*.**—All current African representatives of *Passiena* except *P. auberti* have a dorsal abdominal pattern with an anterior folium, followed by an unpaired dark central area. In addition, their genitalia do not resemble in any way *P. spinicrus* or *P. torbjoerni* suggesting that they are misplaced in *Passiena*. Critical evaluation of the genital and somatic characters of three of these species allowed a tentative placement in other lycosid genera pending a generic revision of African Lycosidae.

***Passiena praepes* (Simon 1885).**—This species is only known from the female type specimen collected in Senegal (Simon 1885) and was originally described in the genus *Pardosa*. Its transfer to *Passiena* by Roewer (1959) was primarily supported by the pres-



ence of four pairs of ventral spines on tibia I. The drawing of the epigynum (Roewer 1959: 170, fig. 86a) strongly resembles that of *P. micheli* Simon 1901 (Roewer 1959:67, fig. 23a) and *P. potteri* Simon 1901 (Roewer 1959:70, fig. 27a) both of which are regarded as junior synonyms of *P. naevia* (C.L. Koch 1875), a typical representative of the *Pardosa nebulosa*-group (Alderweireldt & Jocqué 1992). The abdominal pattern of *P. praepes* as illustrated by Roewer (1959) confirms its affinities with the *P. nebulosa* group. Therefore, *P. praepes* is here regarded as a representative of the *Pardosa nebulosa* group, and consequently returned to the genus *Pardosa*.

***Passiena auberti* (Simon 1898).**—This species from South Africa was originally described in *Pardosa* (Simon 1898). Due to a distinct and wide longitudinal pale band both on carapace and abdomen, combined with a strongly procurved anterior eye row it does not fit into any currently described group (genus or species group) of the Pardosinae. Pending a generic revision of African Lycosidae, I regard *P. auberti* as *incerta sedis*.

***Passiena albipalpis* Roewer 1959.**—This species from Cameroon has six pairs of ventral spines on tibiae I and II, an unusual type of tegular apophysis and a strongly sclerotized and widely arched palea on the male pedipalp. I am unable to place this species into any known genus within the Pardosinae. However, the somatic characters and male and female genitalia are very different to the two known species of *Passiena*, and therefore I regard this West-African species as *incerta sedis*.

***Passiena elegantula* Roewer 1959.**—This species from the Democratic Republic of Congo is known from both sexes and Roewer's (1959:236, fig. 118) illustrations including the male pedipalp with its enlarged palea region suggest a placement in *Pardosa*. In addition, it does not display the typical carapace and abdomen coloration of *Passiena* with the typical wide light bands. Consequently, *P. elegantula* is here transferred to *Pardosa*: *P. elegantula* (Roewer 1959) NEW COMBINATION.

***Passiena upembensis* Roewer 1959.**—This species is known from a female collected in the Democratic Republic of Congo. It is certainly related to *Pardosa oncka* Lawrence 1927 and *Pardosa crassipalpis* Purcell 1903 and may be a junior synonym of the latter. Similarly, Kronstedt's (1987) revision

showed that the widespread *P. oncka* was illustrated under six differently named species by Roewer (1959). However, I have not compared the type of *P. upembensis* with material of *P. crassipalpis* from Botswana available to me. Kronstedt (1987) suggested a potential placement of *P. oncka* in *Wadicosa* Zyuzin 1985. Here, I transfer *P. upembensis* to *Pardosa*, *P. upembensis* (Roewer 1959) NEW COMBINATION, based on its similarity with *P. oncka* and *P. crassipalpis* pending a revision of the African Pardosinae and Wadicosinae.

#### ACKNOWLEDGMENTS

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#### LITERATURE CITED

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